8th Wall for WebAR and XR Development

8th Wall is a powerful WebAR and WebXR development platform for creating augmented reality, virtual reality, and interactive 3D experiences that run **directly in a web browser** — no app download required. Users access any AR/XR experience instantly through a web link or QR code, making immersive content more accessible than ever before.

Official Website: https://8thwall.org/ · Documentation: https://8thwall.org/docs

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What Makes 8th Wall Different?

Unlike traditional AR platforms that require native app installation, 8th Wall is built around **browser-based immersive experiences**. This fundamental design choice dramatically lowers the barrier to entry for both creators and end users.

Smartphones & Tablets

Full AR/XR experiences on iOS and Android devices via mobile browser — no App Store visit needed.

Desktop Browsers

Interactive 3D and WebXR content runs on Chrome, Firefox, and Edge across Windows and macOS.

AR/VR Headsets

Headsets with WebXR-capable browsers — including Meta Quest — can access browser-based XR content directly.

Ideal for Education

Open access makes 8th Wall especially powerful for schools, training centers, and public dissemination events.

Core Features of 8th Wall

8th Wall offers a comprehensive suite of browser-based AR and XR technologies, enabling developers to build rich immersive experiences without native app constraints.

Tracking & Sensing

- World Tracking (SLAM)
- Image Targets
- Face Effects
- Hand Tracking
- Sky Effects & Segmentation

Immersive Platforms

- WebAR experiences
- WebVR environments
- Interactive 3D Web Games
- Browser-based XR Deployment

Framework Integration

- A-Frame
- three.js
- PlayCanvas
- Babylon.js

8th Wall Studio

8th Wall Studio is a **real-time visual editor and game engine** for building immersive 3D and XR experiences directly in the browser. It bridges the gap between visual design and web deployment, allowing both developers and non-programmers to create, test, and publish WebAR content.

Design Visually

Compose scenes, add 3D objects, and configure interactions through an intuitive drag-and-drop interface.

Test in Browser

Preview and iterate on WebAR content in real time without leaving the development environment.

Publish Online

Deploy completed projects to the web instantly, ready to be shared via link or QR code.

Official Resources

Access the full Studio documentation, tutorials, and sample projects at the official portal:

https://8thwall.org/docs

The documentation covers scene setup, scripting, asset management, and publishing workflows for all experience types.

8th Wall AR Engine

At the heart of the platform is the **8th Wall AR Engine** — a sophisticated, browser-native rendering and tracking system that powers real-time AR experiences without any plugin or app dependency.

SLAM-Based World Tracking

Simultaneous Localization and Mapping (SLAM) enables the browser to understand real-world surfaces and anchor digital content persistently in 3D space.

Image & Face Tracking

Detect flat image targets (posters, packaging, worksheets) and apply face effects, enabling marker-based AR workflows.

Sky Segmentation

Isolate the sky region in a live camera feed and replace or augment it with digital content — ideal for outdoor experiences.

Web Framework Integration

The engine integrates directly with A-Frame, three.js, PlayCanvas, and Babylon.js, fitting naturally into existing web development workflows.

8th Wall and WebAR

WebAR brings augmented reality to any device with a modern browser — no installation required. The workflow is elegantly simple, making it ideal for education, exhibitions, and public events.

This frictionless access model is particularly powerful for schools, training centers, Erasmus+ dissemination events, and public demonstrations where asking participants to install an app creates unnecessary barriers.

8th Wall in Vocational Education and Training

8th Wall is exceptionally well-suited for **VET environments**, where learners need fast, contextual access to instructional content on the workshop floor. By embedding AR into existing physical spaces, educators can create lightweight, accessible learning layers that complement hands-on training.

Machine & Component Training

- Machine part recognition
- Automotive component visualization
- Electrical panel guidance

Safety & Compliance

- Safety instruction overlays
- Welding preparation instructions
- Maintenance process demonstrations

Microlearning Activities

- Interactive AR posters
- QR-based microlearning activities
- Step-by-step process guides

Example VET Scenario: The Smart Workshop

The Setup

A vocational school places **QR codes next to machines** on the workshop floor. No special hardware is purchased. No app is pre-installed on student devices. The entire AR layer is delivered through the browser.

Teachers can update the AR content remotely at any time — updating instructions, safety notices, or animations without touching the physical QR code.

What Students See When They Scan

01

Machine Components

Labeled 3D overlays identify each part of the machine in real time.

02

Safety Warnings

Highlighted hazard zones and safety notices appear anchored to the physical machine.

03

Step-by-Step Instructions

Operating and maintenance procedures displayed as interactive, sequential steps.

04

3D Animations

Short animations demonstrate internal mechanisms, movements, or assembly processes.

8th Wall vs. Lens Studio

Both platforms enable compelling AR experiences, but they serve fundamentally different ecosystems. Understanding these differences helps VET practitioners choose the right tool for their specific dissemination context.

Feature	8th Wall	Lens Studio
Main Focus	WebAR / WebXR	Snapchat AR
Access Method	Browser link or QR code	Snapchat ecosystem
App Required	No — browser only	Snapchat app required
Education Use	Strong for open public access	Strong for social AR campaigns
Deployment	Website / project page	Social platform (Snapchat)
Best For	VET, education, exhibitions	Social filters, brand campaigns

For open educational access and VET dissemination, 8th Wall's browser-based model is generally the stronger choice. Lens Studio excels when targeting youth audiences already active on Snapchat.

8th Wall vs. Unity and Unreal Engine

Unity and Unreal Engine are industry-standard XR development environments with far greater graphics fidelity and simulation capability. However, their higher complexity and app-download requirements make them less ideal for lightweight, accessible VET dissemination.

Feature	8th Wall	Unity	Unreal Engine
Main Strength	Browser-based AR	Cross-platform XR	Photorealistic XR
App Download	Not required	Usually required	Usually required
Graphics Power	Moderate	Strong	Very strong
Ease of Access	Very high	Medium	Medium
Industrial Simulation	Limited	Strong	Very strong
Public Dissemination	Excellent	Medium	Medium
VET Microlearning	Excellent	Strong	Strong

Advantages of 8th Wall

For VET practitioners and educators, 8th Wall's core advantages center on **accessibility, speed of deployment, and compatibility** with everyday devices and workflows.

Zero App Download

Learners access content immediately — no App Store, no installation, no device management overhead.

QR Code Access

Print QR codes on worksheets, posters, or machines. Instant access for any learner with a smartphone.

Browser Deployment

Host experiences on any website. Update content remotely without re-publishing to an app store.

Framework Compatible

Works with A-Frame, three.js, PlayCanvas, and Babylon.js — fitting into existing web dev workflows.

Limitations of 8th Wall

8th Wall is a highly capable platform, but it is not the right solution for every immersive learning scenario. Understanding its limitations ensures practitioners make informed tool selection decisions.

Complex VR Simulations

Not suited for high-fidelity VR simulations requiring advanced physics engines or complex multi-user environments.

Industrial Training Depth

Compared to Unity or Unreal Engine, 8th Wall offers more limited capability for high-end, photorealistic industrial training scenarios.

Browser Performance

Rendering performance is constrained by the browser environment — heavy 3D scenes may run poorly on older devices.

Internet Dependency & Dev Skills

Requires an active internet connection to load experiences. Advanced development demands JavaScript and WebGL knowledge.

⚠ For complex VR simulations, photorealistic industrial training, or offline deployment, consider Unity or Unreal Engine as the primary development environment.

Best Use Cases in VET

8th Wall excels in scenarios where **accessibility, portability, and ease of distribution** matter more than graphical complexity or simulation depth.

✅ Well Suited For

AR Posters & Interactive Brochures

Printed materials that come alive when scanned — perfect for open days and exhibitions.

QR-Based Training Materials

Workshop guidance, machine safety demos, and microlearning modules accessible via QR code.

Erasmus+ Dissemination Events

Shareable WebAR project outputs that international partners and learners can access without any setup.

⚠ Less Suited For

Full-Scale VR Simulators

Scenarios requiring advanced physics, haptic feedback, or complex multi-step user interaction.

High-End Graphics Requirements

Photorealistic industrial environments or detailed mechanical simulations belong in Unity or Unreal.

Offline Environments

Workshops or training facilities with limited or no internet connectivity may face access issues.

Why 8th Wall Matters for Erasmus+ and VET Projects

For EU-funded VET and Erasmus+ initiatives, the ability to create and share **open, multilingual, and instantly accessible** digital learning materials is critical. 8th Wall addresses this need directly.

Low-Barrier Digital Outputs

WebAR activities hosted on a project website can serve as official intellectual outputs — accessible to partners across all participating countries without any software prerequisite.

Multilingual AR Content

The same WebAR experience can be adapted or duplicated for multiple languages, supporting multilingual VET partnerships and inclusive dissemination.

Scalable Pilot Activities

QR codes printed in training centers across partner countries instantly connect learners to shared AR content — scaling pilot activities with minimal logistics.

Conclusion

8th Wall is one of the most **accessible and practical WebAR/WebXR platforms** available for education and vocational training today. Its defining strength is removing friction from immersive content delivery — any learner with a smartphone and internet connection can engage with rich AR experiences in seconds.

AR Microlearning

Short, targeted AR learning units embedded in the physical training environment via QR codes.

Workshop Guidance

Machine-level AR overlays for safety, components, and maintenance — always current, always accessible.

Project Dissemination

Shareable WebAR outputs for Erasmus+ events, open days, and public demonstrations.

Blended Toolkit

Use 8th Wall alongside Unity, Unreal Engine, Blender, or Lens Studio to match tool to task and complexity.

The most effective immersive VET strategies combine the accessibility of 8th Wall with the simulation power of Unity or Unreal Engine — using each platform where it performs best.

Recommended Web Links & Resources

The following official resources provide documentation, sample projects, migration guides, and framework references for getting started with 8th Wall and related WebXR tools.

1

8th Wall Official Website

https://8thwall.org/

2

8th Wall Documentation

https://8thwall.org/docs

3

Migration FAQ

https://www.8thwall.com/docs/migration/faq/

4

8th Wall GitHub Resources

https://github.com/8thwall/web

1

A-Frame (WebVR Framework)

https://aframe.io/

2

three.js (3D Library)

https://threejs.org/

3

PlayCanvas (Game Engine)

https://playcanvas.com/

4

Babylon.js & OpenXR

https://www.babylonjs.com/ · https://www.khronos.org/openxr/